

Appl. No. 10/821,347
Amdt. Date October 22, 2005
Reply to Office Action of August 29, 2005

REMARKS

The rejections of independent claims 1, 9 and 17 based on Mori and Byquist are traversed

Independent claims 1, 9 and 17 are rejected under 35 U.S.C. § 103(a) as being unpatentable over Mori in view of Byquist. Applicant requests reconsideration of the rejections for the following reasons:

- (1) There is no suggestion in Mori or Byquist that these references can be combined, much less combined in the proposed manner.
- (2) Even if Mori and Byquist were to be combined in the proposed manner, the proposed combination would not show all of the novel physical features of each of claims 1, 9 and 17.
- (3) The novel features of each of claims 1, 9 and 17 produce new and unexpected results and, therefore, are unobvious and patentable over these references.

The references and differences of the present invention thereover

Prior to discussing the claims and the above three points, Applicant will first discuss the references and the general novelty of the present invention and its unobviousness over the references.

Mori discloses a socket for reception of an IC package capable of realizing automatic mounting and removal of an IC package in a simple and easy manner. The socket comprises a lower block 10 and an upper block 20 fixed to the lower block 10. A cover member 30 is disposed on upper block 20 as to be capable of being pushed down and up on outer surfaces of the upper block 20. A slide block 40 is slidably disposed in a recess formed between the upper and lower blocks 10 and 20 in order to reciprocate in a direction parallel to the horizontal surfaces of the upper and lower block 10 and 20. A continuous spring force in the return

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direction is placed on the slide block 40 by a spring 42. Opening and closing mechanism 50 transmits the downwardly exerted force on the cover member 30 to the slide block 40 and causes the slide block 40 to slide in a direction opposite to the spring force of the spring 42. During assembly and operation of the socket, the force exerted on the cover member 30 is evenly transformed to the upper block 20 and, therefore, there is no issue of deformation of the socket, much less the two opposite ends of the lower block 10 and the upper block 20 where the slide block 40 and the opening and closing mechanism 50 are mounted thereto, respectively.

Byquist's invention relates to an LGA socket assembly directed to providing adequate pressing force to ensure mating between leads of an IC package and contacts of the socket assembly. Byquist teaches an LGA socket assembly using different means (positioning the ledge 454 of the socket 450 on opposite corresponding ledge 414 of the frame 410) to achieve a different function (securely press the socket 450), therefore, solving a different problem (ensuring electrical connection between the IC package and the socket assembly).

Mori and Byquist do not contain any suggestion to support their combination, much less in the proposed manner

It is well known that in order for any prior art references themselves to be validly combined for use in a prior art § 103(a) rejection, the references themselves must suggest that they can be combined. For example, as was stated in In re Sernaker, 217 U.S.P.Q. 1, 6 (C.A.F.C. 1983):

"Prior art references in combination do not make an invention obvious unless something in the prior art references would suggest the advantage to be derived from combining their teachings."

That the suggestion to combine the references should not come from Applicant was forcefully stated in Orthopedic Equipment Co. v. United

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States, 217 U.S.P.O. 193, 199 (C.A.F.C. 1983):

"It is wrong to use the patent in suit [i.e. here, the patent application] as a guide through the maze of prior art references, combining the right references in the right way to achieve the result of the claims in suit [i.e. here, the pending claims]. Monday morning quarterbacking is quite improper when resolving the question of unobviousness in a court of law [i.e. here, the PTO]."

Further, as was stated in Uniroyal Inc. v. Rudkin-Wiley Corp., 5 U.S.P.O. 2d 1434 (C.A.F.C. 1988):

"where prior-art references require selective combination by the court to render obvious a subsequent invention, there must be some reason for the combination rather than the hindsight gleaned from the invention itself. ... Something in the prior art must suggest the desirability and thus the obviousness of making the combination."

In line with these decisions, the Board of Appeals and Patent Interferences in Ex parte Levengood, 28 U.S.P.O. 2d 1300 (P.T.O.B.A. & I. 1993) recently stated:

"In order to establish a prima facie case of obviousness, it is necessary for the examiner to present evidence, preferably in the form of some teaching, suggestion, incentive or inference in the applied prior art, or in the form of generally available knowledge, that one having ordinary skill in the art would have been led to combine the relevant teachings of the applied references in the proposed manner to arrive at the claimed invention. ... That which is within the capabilities of one skilled in the art is not synonymous with obviousness. ... Accordingly, an examiner cannot establish obviousness by locating references which describe various aspects of a patent applicant's invention without also providing evidence of the motivating force which would impel one skilled in the art to do what the patent application has done."

In the present case, there is no reason given in the Office Action to

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support the proposed combination, and neither of the references shows objective teaching that would lead one of ordinary skill in the art to combine the relevant teachings of the references. It is not sufficient to merely selectively modify parts of one reference (the ledges of Byquist's) with another reference (Mori) in order to arrive at Applicant's claimed invention.

In summary, Applicant submits that combining Mori and Byquist is not justified and illogical. The rejection based on combination of these references is improper and should be withdrawn.

Even if Mori and Byquist were to be combined in the manner proposed, the proposed combination would not show all of the novel physical features of independent claims 1, 9 and 17

Even if the proposed combination of Mori and Byquist were proper, independent claims 1, 9 and 17 still have novel (and unobvious) physical features over the combination. In other words, Applicant's invention, as clearly defined in independent claims 1, 9 and 17 comprises significantly more than merely modifying and reversing the protrusion/slot arrangement of Mori with Byquist.

Specifically, as detailed below, limitations (a) and (b) of each of claims 1, 9 and 17 distinctly distinguish Applicant's claimed invention from proposed combination of Mori and Byquist:

limitation (a): "the first sidewalls form a plurality of protrusions on the exterior surface adjacent the connecting section and the retaining section"

limitation (b): "the second sidewalls correspondingly define a plurality of slots to mate with the protrusions, thereby reinforcing the socket body via engagement between the protrusions and the slots"

However, the proposed combination of Mori and Byquist fails to recite limitations (a) of the claimed invention. Actually, as clearly shown in Fig. 4 of Byquist, the ledges 454 and 414 are formed on all sides of the

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socket 450 and the frame 410 so as to ensure the force of the socket 450 be evenly exerted on the frame 410.

On the other hand, the proposed combination of Mori and Byquist also fails to disclose limitation (b) of the claimed invention. Actually, the ledge 454 does not mate with the load point channels 416a and 416b in order to reinforce the socket. On the contrary, as expressly recited in the first sentence of paragraph [0039] of Byquist, the reinforcement of the socket is realized via positioning ledge 454 of the socket 450 on the ledge 414 of the frame 410.

In summary, Applicant submits that the present invention is much more than merely modifying the slot/protrusion arrangement of Byquist with Mori, and that independent claims 1, 9 and 17 clearly recite novel physical subject matter which is patentably distinguishable over the proposed combination of Mori and Byquist.

The novel physical features of independent claims 1, 9 and 17 produce new and unexpected results and hence are unobvious and patentable over these references under § 103(a)

Applicant submits that the novel physical features of claims 1, 9 and 17 are also unobvious and hence patentable under § 103(a) since they produce new and unexpected results over the proposed combination of Mori and Byquist.

Via engagement between the protrusions and the corresponding slots of the claimed invention, the frame can downwardly press the socket body. The socket body, especially opposite ends of the socket body where the socket plate and the load lever are mounted thereto, are free from bending upward. Accordingly, the tensile forces between the socket body and the soldering balls are remarkably relieved. Even those soldering balls distant from the center of the socket body can substantially engage with respective conductive pads of the IC package.

These new results are essentially realized via engagement between the

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protrusions and slots arrangement of the Applicant's invention, thereby ensuring mechanical and electrical performance of the electrical connector assembly. Applicant's electrical connector assembly is therefore clearly superior to that of combination of Mori or Byquist. The novel features of Applicant's electrical connector assembly which giving effect to these results are clearly recited in claims 1, 9 and 17.

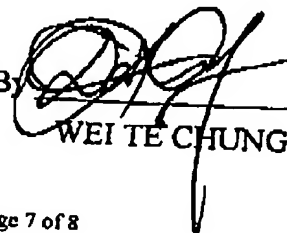
The dependent claims are patentable over Mori and Byquist in view of the above

Dependent claims 2-8 and 10-16 incorporate all the subject matter of independent claims 1 and 9, respectively, and add respective additional subject matter. As detailed above, since independent claims 1 and 9 are allowable, it is submitted that the dependent claims 2-8 and 10-16 are also allowable. Applicant respectfully requests that rejections relating thereto be removed.

Conclusion

In light of all the above remarks, Applicant asserts that all the pending claims are now in proper form and are patentably distinguishable over the prior art. Therefore, Applicant respectfully submits that this application is now in condition for allowance, and an action to this effect at an earlier date is earnestly requested.

Respectfully submitted,
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